

# PROFILE OF SILICA AEROGEL COMPOSITE

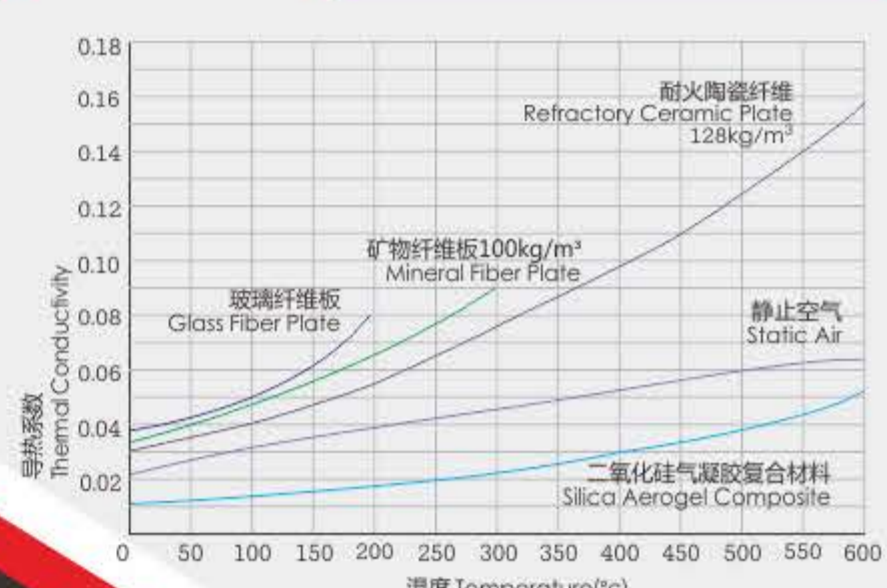
## SiO<sub>2</sub>气凝胶复合材料



### 产品描述 Descriptions:

SiO<sub>2</sub> 气凝胶复合材料是由非晶型硅胶和基材复合并在超临界二氧化碳流体中干燥而得到的。它有效的降低了气凝胶本身的高脆性，增强其与基材之间的价键结构，可广泛应用于建筑、石化等保温领域。  
The SiO<sub>2</sub> aerogel composite developed and produced by GAWEI is made by drying the noncrystal silica gel and its substrate blanket with the supercritical CO<sub>2</sub> fluid. The process can reduce the intrinsic high brittleness of the aerogel effectively, and strengthen the structure of valence bond between the aerogel and its substrate. The aerogel can be widely used in construction and petrochemical fields.

- ### 优势 Advantage
- 1、导热系数低  
Lower thermal conductivity coefficient
  - 2、薄而轻  
Thinnest and lightest thermal insulating material
  - 3、防水防潮，易于仓储  
Water-proof and moisture-proof, easy to storage
  - 4、防火性能优越，安全级别为A1级  
Superior fire proof performance with safety class of Gr.A1
  - 5、抗压性强，能承受野蛮施工  
Resistant to high pressure
  - 6、使用安全，易于安装，绿色环保  
The use of safe, easy to install, green environmental protection



### SiO<sub>2</sub> 气凝胶玻璃纤维保温毡--SACB-0-X Silica Aerogel Fiberglass Composites--SACB-0-X

SiO<sub>2</sub>气凝胶玻璃纤维保温毡是我公司的主打产品之一它是选用针刺玻璃纤维毡为基材，将气凝胶复合到基材里制备而成的。具有优异的隔热性能和表面疏水性以及阻燃性能。其常温导热系数在0.016W/(m·k)左右，比静止空气的还低；该产品的疏水性极高，常温下的憎水率可达99%以上；阻燃性能优异，防火等级达到国家A1级标准。且该产品的使用温度范围广，可根据不同要求在-200-650°C范围内使用，安装简单快捷，便于施工。可广泛应用于650°C，右边需绝热的管道和罐体、炉体等。  
Silica aerogel fiberglass composites is one flagship product of our company. It's prepared by compounding Silica aerogel and fiberglass with fiberglass as the basal. It has excellent thermal insulation properties and surface hydrophobicity and flame retardant properties. Its thermal conductivity coefficient at room temperature is about 0.016 W/(m, k), which is lower than still air. And its hydrophobic rate can reach 99% under the normal temperature. Also its flame retardant performance is good, the fire rating reach national A1 level. And its working temperature range is wide, it can work in -200-650°C according to the different requirements. It's easy to cut and install and be widely used on pipes, tanks and furnace, etc. under 650°C.



### 主要技术参数 Technical Parameter :

产品型号 Model	SACB-0-3	SACB-0-6	SACB-0-10
厚度 Thickness(mm)	3	6	10
宽度 Width(mm)	1400/1500(customizable)		
颜色 Color	白色 White		
使用温度 Permitted useful temperature range(°C)	-200-650	-200-650	-200-650
密度 Density(kg/m <sup>3</sup> )	200±20	200±20	200±20
线性膨胀率 Linear expansivity	4.2×10 <sup>-6</sup>		
尺寸稳定性 Dimensional stability(max)	1%	测试方法 Test method GB/T 18811-2008	
压缩性能 Compressive property	(min),kpa,@10%	60	测试方法 Test method GB/T 13480-2014
	(min),kpa,@25%	120	
燃烧等级 Burning behavior	S4级		
烟熏等级 The smoke performance level	SR-2		
滴落物等级 Drip content level	SR-2		
烟熏毒性 FED值 Smoke toxicity of the FED's value,max	0.1		
耐腐蚀性 Corrosion resistance	通过		
憎水 Hydrophobicity,%	>99		
拉伸强度 Tensile strength(min),kpa	100		

注释：SiO<sub>2</sub>气凝胶玻璃纤维和陶瓷纤维技术参数  
Annotations:Silica Aerogel Glass fiber and ceramic fiber technical parameters

### SiO<sub>2</sub> 气凝胶陶瓷纤维保温毡--SACT-X Silica Aerogel Ceramic Fiber Composites--SACT-X

SiO<sub>2</sub>气凝胶陶瓷纤维复合材料是以陶瓷纤维为基材，将气凝胶与其复合制备而成的。该产品在常温下的导热系数不大于0.020 W/(m·k)。该产品能够在较高温下使用，可满足高温条件下的保温要求，广泛应用于600°C以上需绝热的管道和罐体、炉体等。  
Silica aerogel ceramic fiber composites is prepared by compounding Silica aerogel and ceramic fiber with ceramic fiber as the basal. It's coefficient of thermal conductivity at room temperature is less than 0.020 W/(m, k). This product can be used under high temperatures which can meet the different heat insulation requirements. So it's be widely used on pipes, tanks and furnace, etc above 600°C.



### SiO<sub>2</sub> 气凝胶隔热纸(板) Silica Aerogel Heat Insulation Paper(Carton)

外形尺寸 Size	长宽≤1m,厚度5mm-30mm Lengths≤1m,Thickness 5mm-30mm
热导率 Thermal	≤0.02w/mk
密度 Density	≤300Kg/m <sup>3</sup>

注释：SiO<sub>2</sub>气凝胶隔热纸(板)技术参数  
Annotations:Silica Aerogel Heat insulation Carton technical parameters



### SiO<sub>2</sub> 气凝胶玻璃 Silica Aerogel Glass



## 郑州久达科技有限公司

Zhengzhou Joda Technology Co.,Ltd.

## SiO<sub>2</sub> PROFILE OF SILICA AEROGEL COMPOSITE 气凝胶复合材料

外形尺寸 Size	长宽≤1m,厚度5mm-30mm Lengths≤1m,Thickness 5mm-30mm
孔隙率 Porosity	80-99.8%
可见光透射率 Visible Light Transmittance	≥60%
热导率 Thermal Conductivity	≤0.02w/mk
密度 Density	≤300Kg/m <sup>3</sup>
降噪系数NRC Noise Reduction Coefficient	0.45

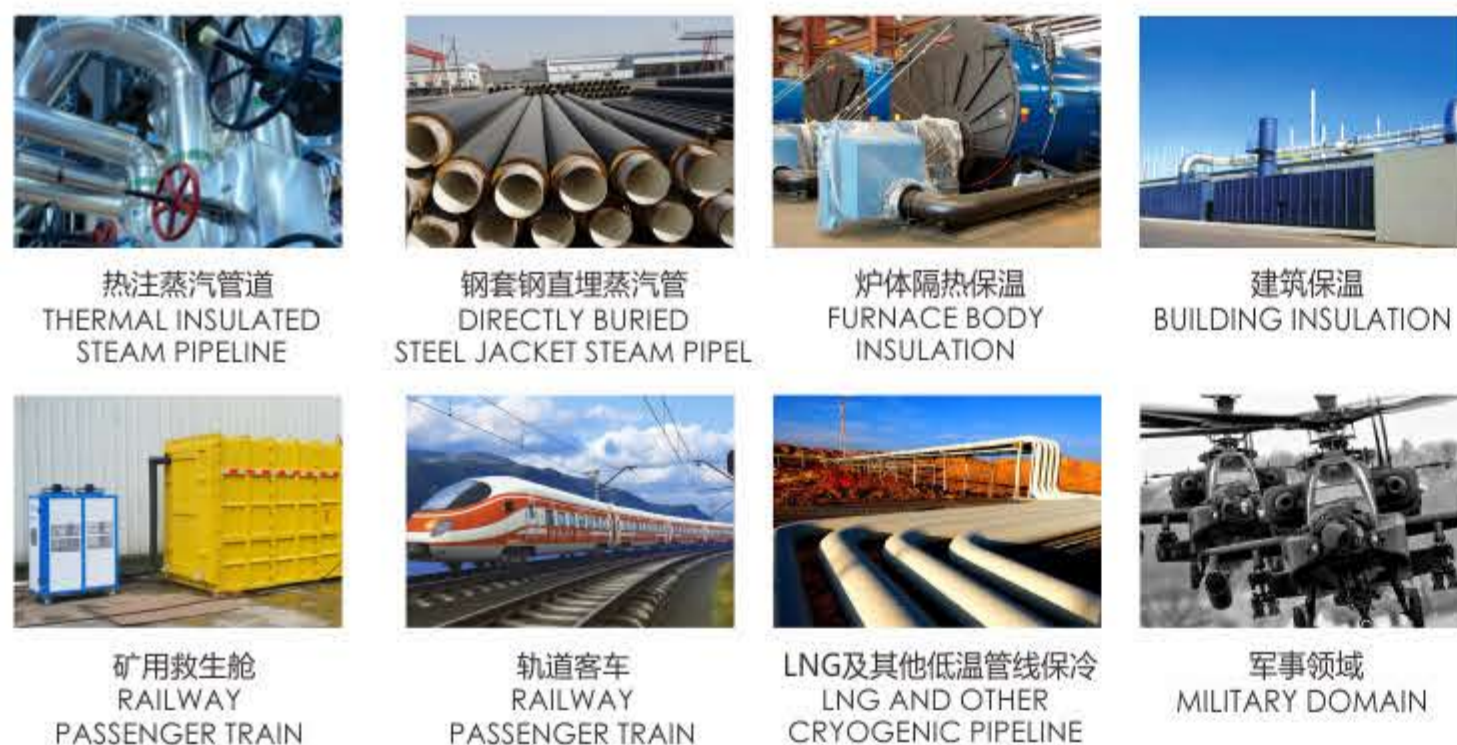
注释：SiO<sub>2</sub>气凝胶玻璃技术参数  
Annotations:Silica Aerogel Glass technical parameters

### SiO<sub>2</sub> 气凝胶粉体(颗粒) Silica Aerogel Powders (Particles)



项目 Items	气凝胶粉体 Silica Aerogel Powders	气凝胶颗粒 Silica Aerogel Particles
体积密度 Density	40-120Kg/m <sup>3</sup>	60-120Kg/m <sup>3</sup>
粒度 Particle Size	0.5-1mm	2-5mm
比表面积 Specific Surface Area	800-960m <sup>2</sup> /g	600-800m <sup>2</sup> /g
孔隙率 Porosity	>90%	>90%
孔径 Aperture	20-60nm	40-60nm
表面性能 Surface Property	亲水/亲水 Hydrophilic / Hyreophilic	疏水/亲水 Hydrophobic / Hyreophilic

注释：SiO<sub>2</sub>气凝胶粉体(颗粒)技术参数  
Annotations:Silica Aerogel Powders(Particles) technical parameters



### 应用领域 Application fields :

- 1.管道保温：石油管道、化工管道、城市供暖系统、蒸汽管道。
- 2.罐体保温：大型LNG储罐，裂解釜、加氢釜、制氢釜、超临界萃取釜、蒸压釜、大型机械窑炉、工业建筑墙体、高温作业车间、保温操作平台；
- 3.家电保温：冰箱、中央空调、电热炉、加热器、烤箱、电取暖器；
- 4.军事航天：反应堆、太空舱、救生舱、航天飞机、潜艇回路管道；
- 5.建筑保温：高档建筑的保温材料，目前保温性能最优秀的保温材料；

1. Pipeline insulation: oil pipelines, chemical pipelines, urban heating systems, steam pipes.
2. Tank insulation: large LNG storage tank, cracking kettle, hydrogenation kettle, hydrogen kettle, supercritical extraction kettle, autoclave, large mechanical furnace, industrial building wall, high temperature operation workshop, insulation operation platform;
3. Appliance insulation: refrigerator, central air conditioning, electric furnace, heater, oven, oven, electric heater;
4. military aerospace: reactor, capsule, rescue capsule, space shuttle, submarine circuit;
5. Building insulation: high-grade building insulation materials, the current insulation performance of the best insulation materials;

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